DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-012942
Date Inspected: 07-Apr-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1100
OSM Departure Time: 1930
Location: Job Site

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the E1/E2, E2/E3, W1/W2 and W2/W3 field splices:

A). Welding of the Field Splice W1 to W2.
B). Fit-up of the Field Splice W2 to W3.
C). Removal of Backing Bars.
D). UT of the Field Splice E2 to E3.

A) Welding of Field Splice W1/W2

The QAI observed the Submerged Arc Welding (SAW) process of the deck plate field splice identified as Weld Number (WN): 1W-2W-A. The welding was performed by AB/F welding operator Bryce Howell ID-5591utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1 Rev. 0. The WPS was also used by the AB/F Quality Control (QC) Inspector's Tom Pasqualone as a reference to perform QC verification of the Direct Current Electrode Positive (DCEP) welding parameters during the Complete Joint Penetration (CJP) groove welding of the deck plate field splice. Later in the shift the QAI observed the QC inspector verifying the welding parameters during the SAW and were noted as follows: 560 amps, 33.8 volts and a travel speed measured at 400. The QC inspector's also monitored the surface temperatures during the field welding and the following was observed and noted by the QAI: the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The CJP groove weld was completed during this scheduled shift.

B) Assembly Fit-Up at OBG Splice W2/W3

The QAI also observed the fillet welding of the fitting gear to the deck plate field splice identified as WN: 2W-3W-A. The welding and the assembly fit-up was performed by Rick Clayborn ID-2773 utilizing the SMAW process during the welding as per the WPS ABF-WPS-D15-F1200A Rev. 1. The WPS was also used by the QC inspector Bonifacio Daquinag as a reference to verify the DCEP welding parameters and were noted as follows: 121 amps. Later in the shift the QAI observed the QC inspector verify the surface temperatures and appeared to comply with the contract documents were noted as follows: 10 degrees Celsius (preheat temperature) and the maximum interpass temperature of 230 degrees Celsius.

C) Removal of Backing Bar at Field Splice E1/E2, E2/E3

Later in the shift the QAI inspector observed the removal of the backing bar at the side plate field splice identified as 2E-3E-C, Segment C and 1E-2E-C, Segment C. The removing of the backing bar was performed by AB/F personnel Salvador Sandavol and Rory Hogan utilizing the plasma arc cutting process.

D) QC/UT of Field Splice E2/E3

The QAI also observed the continued Ultrasonic Testing (UT) of the CJP groove weld of the bottom plate field splice identified as WN: 2E-3E-D. The testing was performed by the technician Jesse Cayabyab utilizing a USM 35, a product manufactured by Krautkramer and the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4. The UT technician performed the required longitudinal and shear wave scanning techniques during the testing which was performed utilizing a 1" diameter transducer for base metal soundness and a .75 x .75 rectangular transducer used to perform the angle beam technique for weld soundness. The testing was completed during this scheduled shift and approximately 12 rejectable discontinuitities were noted and marked by the QC technician.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector's and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized for the SMAW and SAW processes appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift was not completed and appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs on page 3 of this report illustrate the work observed during this scheduled shift.

WELDING INSPECTION REPORT

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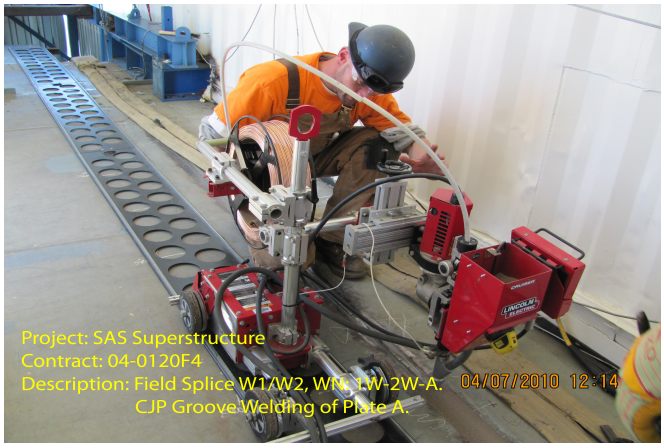

Summary of Conversations:

There were no pertinent conversations discussed in regards to the project except as noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer